Supplementary Table S1 - A summary of cultural transmission experiments in adult humans

Publication	Participant sample	What was transmitted	Findings, authors' conclusions
1. Linear Transmission Chain Method			
Bartlett (1932)	Students (UK, India)	Written material (folk tales, newspaper reports etc.) and pictures	Cultural transmission is predominantly reconstructive rather than replicative; material becomes more abstract and is distorted according to prior knowledge.
Northway (1936)	10, 14, 15 yr olds (Canada)	Stories	As Bartlett
Maxwell (1936)	Students, priests, children, soldiers, academics (UK)	Stories	Participant background had little effect on transmission
Tresselt & Spragg (1941)	Students (US)	Description of pottery manufacture and use, primed with either technical or religious information	Participants primed with technical information transmitted technical information better, whereas the religious prime had no effect
Allport & Postman (1947)	Students (US)	Pictures / descriptions of pictures	Descriptions conform to participants' expectations/ prejudices, e.g. racial prejudices caused black men to be described as increasingly aggressive/criminal
Ward (1949)	Students (UK)	Prehistoric coin designs	Did not appear to replicate historical transmission of coin designs across medieval Europe, although the lack of quantitative analysis made this hard to determine
Hall (1951)	Students (UK)	Pictures	Ambiguous pictures are gradually distorted to match their labels
Talland (1956)	Students (UK, US, France, Italy, Netherlands, Sweden)	Written material	Minor differences according to participant nationality, e.g. a cricket report was preserved only by British participants
Brissey (1961)	Students (US)	Description of a film showing a car crash	Omission of details, although little distortion
Kurke, Weick & Ravlin (1989)	Students (US)	Folk tales	General themes of the story were reconstructed when recalls were passed back up the same transmission chain
Kashima (2000)	Students (Australia)	Descriptions of gender stereotypical and gender unstereotypical behaviour	Initial generations favoured stereotype-inconsistent behaviour, later generations favoured stereotype-consistent behaviour.
Bangerter (2000)	Students (Switzerland)	Description of sexual reproduction	Anthropomorphism of sperm and egg cells: sperm are described as active, ovum as passive. Evidence for gender stereotyping of biological reproduction.

Barrett & Nyhof (2001)	Students (US)	Descriptions of intuitive, counter-intuitive and bizarre items (objects, animals and intentional agents)	Counter-intuitive items were transmitted better than intuitive and bizarre; the latter were transformed into counter-intuitive.
Schotter & Sopher (2003)	Students (US)	Battle of the Sexes game strategy (choosing one of two options), either via behavioural history or explicit written advice	Only explicit advice maintained stable traditions.
Mesoudi & Whiten (2004)	Students (UK)	Descriptions of everyday events (getting up, going shopping, going to a restaurant)	Descriptions were transformed according to hierarchically structured knowledge scripts, with low level actions described at increasingly higher/abstract levels of the hierarchy
Mesoudi, Whiten & Dunbar (2006)	Students (UK)	Vignettes varying in social content	Social information was transmitted better than non-social information, consistent with the Machiavellian intelligence / social brain hypothesis
Kalish, Griffiths & Lewandowsky (2007)	Students (US)	Estimates of mathematical functions	Estimates converged upon linear positive functions (y = x), due to a pre-existing inductive bias for this function
Griffiths, Christian & Kalish (2008)	Students (US)	Concepts used to categorise stimuli into sets	Concepts that were favoured by pre-existing inductive biases came to predominate as transmission proceeded.
2. Replacement method			
Rose & Felton (1955)	Students (US)	Interpretations of ink blots	Creativity was higher in closed microsocieties with no migration, compared to open societies where individuals were moved from group to group
Jacobs & Campbell (1961)	Students (US)	An artificially exaggerated perceptual judgement of a visual illusion	Conformity maintained the arbitrary tradition for only 2-3 generations/replacements before returning to individual learning baseline.
Weick & Gilfillan (1971)	Students (US)	Easy or difficult strategies for solving a coordination task	Easy strategies persisted for eight generations after the last trained member was replaced, while hard strategies were not transmitted.
Zucker (1977)	Students (US)	As Jacobs & Campbell but with emphasised group membership	Group membership increased the fidelity of conformist transmission of the arbitrary norm
Insko *et al.* (1980)	Students (US)	Strategies for making paper models and trading them with other groups	Groups increased in productivity due to the transmission of increasingly efficient trading rules and division of labour that were preserved despite group member turnover.

Insko *et al.* (1982)	Students (US)	Strategies for making paper models and trading them with other groups	Group seniority rules (i.e. the longest-serving group member served as leader) were more likely to emerge when group members were relatively inexperienced and unfamiliar with one another
Insko *et al.* (1983)	Students (US)	Strategies for making paper models and trading them with other groups	Cooperative societies with voluntary trade were more productive than societies in which trade was forced
Baum *et al.* (2004)	Students (US)	Strategies for solving anagrams	Groups converged upon optimal choices of anagrams, with new group members instructed in the optimal tradition via accurate or inaccurate information or coercion.
Caldwell & Millen (2008)	Students (UK)	Techniques for making paper aeroplanes and spaghetti towers	Cumulative improvement (aeroplanes that flew further, spaghetti towers that were taller) was observed with successive generations
3. Closed Group Method			
Kameda & Nakanishi (2002)	Students (Japan)	The location of a rabbit	Participants divide themselves into information producers (individual learners) and information scroungers (social learners), with the latter free-riding on the individual learning efforts of the former
Kameda & Nakanishi (2003)	Students (Japan)	The location of a rabbit	Groups of cultural learners outperformed groups of individual learners, because the former switched between social and individual learning depending on conditions.
McElreath *et al.* (2005)	Students (US)	Which of two crops to plant	Fewer Ps engage in social learning than expected/ predicted. Those that did engaged in conformity, especially when task was difficult and environment fluctuates
Efferson *et al.* (2007)	Farmers (Bolivia)	Which of two technologies to use	Little evidence for the use of either conformist or copy-best-individual cultural learning strategies
Efferson *et al.* (2008)	Students (US)	Which of two technologies to use	Participants who showed conformist learning outperformed non-conformists
Mesoudi & O'Brien (2008)	Students (US)	Design attributes of an arrowhead (e.g. length, thickness, shape)	Copy-successful-individuals cultural learning results in high attribute correlations, while individual learning results in low attribute correlations, matching differences between prehistoric Nevada and California respectively.

Mesoudi (in press)	Students (UK)	Design attributes of an arrowhead (e.g. length, thickness, shape)	The adaptive advantage of copy-successful-individuals cultural learning disappeared in unimodal fitness environments; cultural learning itself disappeared when participants could set informational access costs

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